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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/526,602	03/16/2000	Yasuharu Suda	54490-Z/JPW/DVD	1592

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07/19/2004

John P White
Cooper & Dunham LLP
1185 Avenue of the Americas
New York, NY 10036

EXAMINER

RODEE, CHRISTOPHER D

ART UNIT	PAPER NUMBER
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1756

DATE MAILED: 07/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/526,602	SUDA ET AL.	
	Examiner	Art Unit	
	Christopher RoDee	1756	

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-26 and 28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 21-26 and 28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

In response to the last Office action applicants have added the limitations of claim 27 to claim 21 to overcome the rejections of record. Although the subject matter of claim 27 did not appear to render the claims unpatentable at the time of last Office action, further consideration of the specification and previously applied JP reference as well as discovery of a new reference necessitates the following grounds of rejection. The new grounds of rejection fully respond to applicant's remarks, which relied upon the previously non-rejected limitations of claim 27.

Claim Rejections - 35 USC §§ 102 & 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 21, 22, 25, and 28 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious JP 6-118726, optionally considered with Technical Information TI 1222, Special hydrophobic AEROSIL (SHA) for Toners, Nippon Aerosil Co. Ltd., p. 5.

The Japanese document discloses a method in Example 14 (¶¶ [0072] - [0075]) of making a liquid toner where ethylene-vinyl acetate copolymer (a thermoplastic resin, spec. p. 6, l. 17-18), tin octylate (i.e., a metal soap), and silica having a 7 nm diameter and 300 m²/g specific surface area (i.e., Aerosil; see spec. p. 8, l. 20-26) are mixed in THF and heated to dissolve the resin and form a resin solution. A pigment, wax, and poly-methyl-hydroxystearate are also mixed in THF to form a pigment dispersion liquid. The resin solution and pigment liquid

are combined and mixed and the temperature of the liquids is reduced to precipitate toner particles. The particles are then dispersed in ISOPAR G to form the liquid toner. The reference states that the fine particles (e.g., silica) are made to exist in the olefin system resin particle (§ [0008]). It appears this is the same structure that results in the electrorheological fluid of the instant specification (see spec. p. 4, l. 16-24; p. 13, l. 5-17)

Example 13 appears similarly applicable to the instant claims. The silica additive is added with the pigment dispersion liquid rather than the resin solution, but these liquid components are combined and mixed before precipitation. Consequently, it appears that the liquids would be in a mixture in the same or substantially the same condition in Example 13 as Example 14. The JP reference also discloses the use of aluminum oxide and titanium oxide as the fine particles (§ [0024]). Example 9 (§ [0062]) shows zirconium octylate as an alternative to tin octylate.

The reference does not identify the specific AEROSIL used in the examples, but on page 5 of the translation the document identifies useful AEROSILs as AEROSIL 130, AEROSIL 200, AEROSIL200 - CF, AEROSIL300, AEROSIL 300CF, AEROSIL 380, AEROSIL OX50, AEROSIL TT600P, AEROSIL MOX80, AEROSIL MOX170, AEROSIL COK84, AEROSIL R972, AEROSIL R974, AEROSIL M02, AEROSIL R805, and AEROSIL R812. These AEROSILs overlap with those disclosed in the specification as having treatment with an organic material or a hydroxide. The specification on page 9 states, "it is also possible to use inorganic fine particles having the surface treated with an organic material or hydroxide. Specific surface-treated silica-based inorganic fine particles used in the present invention include, for example, Aerozyl series particles produced by Japan Aerozyl Co., Ltd. such as Aerozyl 130, Aerozyl 200, Aerozyl 200 SV, Aerozyl 200 CF, Aerozyl 300, Aerozyl 300 CF, Aerozyl 380, Aerozyl R972, Aerozyl R974, Aerozyl R202, Aerozyl R805, Aerozyl R812, Aerozyl OX50, Aerozyl TT600, Aerozyl MOX80,

Art Unit: 1756

Aerozyl MOX170, Aerozyl COK84..." Upon further consideration it appears that "Aerozyl" is a transliteration of "AEROSIL". Thus the specification and reference refer to the same compounds. Note that AEROSIL 130, AEROSIL 200, AEROSIL300, AEROSIL 300CF, AEROSIL 380, AEROSIL OX50, AEROSIL MOX80, AEROSIL MOX170, AEROSIL COK84, AEROSIL R972, AEROSIL R974, and AEROSIL R805 are disclosed by each of the specification and the document as effective. Given the substantial overlap between the described AEROSILs and because the specification identifies these overlapping compounds as having the requisite surface treatment now specified in the claims, the reference is seen as disclosing inorganic fine particles, particularly silica, having the surface treated with an organic material or hydroxide with sufficient specificity as to place these compounds in the artisan's possession. Alternatively, the artisan would have found it obvious to use one of the above noted AEROSILs in the JP reference's invention because each component is taught by the reference as effective.

The newly cited Technical Information document shows that AEROSIL R972 and R974 are surface treated with dimethyldichlorosilane while R812 is surface treated with HMDS and R202 is surface treated with dimethylpolysiloxane. The artisan would recognize each of these components as organic compounds as well as being hydrophobic given the title of the technical disclosure..

The reference does not state that the properties of an electrorheological fluid are imparted to the liquid toner. However, it appears that the toner of the JP document would inherently have these properties because the toner is formed in the manner specified by the instant claims including heating of the resin so it dissolves, adding the silica particles, and cooling solution to precipitate the particles. Further, the reference describes the fine inorganic particles as being part of the resin particles, which is the same structure as required by the

Art Unit: 1756

instant specification to give an electrorheological property. It appears that the silica particles would also inherently be present attached to or impregnated in at least the toner particle surfaces because each of the requisite process steps to produce this feature is identically disclosed by the reference and the materials (e.g., resin and silica) are disclosed by the specification as effective in the process.

The claiming of a new use, new function or unknown property which is inherently present in the prior art does not necessarily make the claim patentable. *In re Best*, 195 USPQ 430, 433 (CCPA 1977). "[T]he PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of his [or her] claimed product. Whether the rejection is based on inherency' under 35 U.S.C. 102, on prima facie obviousness' under 35 U.S.C. 103, jointly or alternatively, the burden of proof is the same..." The burden of proof is similar to that required with respect to product-by-process claims. *In re Fitzgerald*, 205 USPQ 594, 596 (CCPA 1980).

Claims 23, 24, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 6-118726 optionally considered with Technical Information TI 1222, Special hydrophobic AEROSIL (SHA) for Toners, Nippon Aerosil Co. Ltd., p. 5.

The JP reference and Technical Information were described above. The JP reference does not identically disclose the claimed amount of antistat or dispersant in the reference liquid toner. The reference states that the polyhydroxy carboxylate is added to aid dispersion of the pigment in the resin (¶ [0034]). This component is a dispersant. The amount of this component is 0.01 to 200 weight % of the resin weight. The reference also discloses an amount of the tin octylate in Example 14 as 1.0 g along with 2.5 g of resin, 2.5 g of pigment, 0.09 g of carboxylate wax, and an amount of silica. Example 1 discloses similar component amounts with 0.02 mg of

Art Unit: 1756

silica. This example (Example 1) has about 16 weight % of the tin octylate based on the total solid components.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use an amount of tin octylate in Example 14 based on the same solid amounts as in Example 1 because Example 1 shows that these component amounts are effective to give reduced picture flow (see Abstract). Optimization of these material amounts is well within the level of skill in the art given the guidance present in the reference. It would also have been obvious to optimize the amount of the carboxylate wax given the general teachings of the reference and particularly in view of the Example 1 guidance where 1.6 weight % of the carboxylate is present based on the solids. The artisan would expect similar amounts of the component to be effective in the other Examples where similar amounts of the other components are used.

The JP reference is seen as disclosing a component having an electrorheological fluid character because the additive fine particles are present in the tone particles, as discussed in the section 102 rejection above. This structure produces an electrorheological fluid according to the specification (again, see discussion above). The general disclosure of the reference is thus seen as producing an electrorheological fluid.

The JP reference also does not disclose surface treatment of the titania, but given that the commercially available silicas used in the invention have a surface treatment, the artisan would have found it obvious to use the same or similar surface treatment compounds on the titanias disclosed in the JP reference (see translation p. 5).

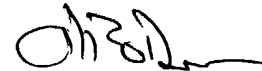
Art Unit: 1756

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher RoDee whose telephone number is 571-272-1388. The examiner can normally be reached on most weekdays from 6:00 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**CHRISTOPHER RODEE
PRIMARY EXAMINER**

cdr
15 July 2004